AMENDMENTS TO THE SPECIFICATION:

Amend the first paragraph on page 19 to read:

ρ : true density of gas-free liquid.

$$\rho = \frac{m_{pyc}}{x\%V_{pyc}}$$

(35-A) ~~(35-A)~~

Usage: calculating the true density of gas-free liquid using a pycnometer preferably in a lab scenario, which can further be used as a reliable basis for determining % solids.

Applied Method: direct measurement (lab method).

Amend the second paragraph on page 19 to read:

ρ : true density of gas-free liquid.

$$\rho = \frac{m}{V}$$

(35-B) ~~(35-B)~~

Usage: calculating the true density of gas-free liquid in a production environment scenario, which can further be used as a reliable basis for determining % solids.

Applied Method: direct measurement.

Amend the paragraph bridging pages 25-26 to read:

DIRECT MEASUREMENT (for true density). For a laboratory measurement, the gas-free true density, ρ, can be determined using a pycnometer, or a similar device. A pycnometer is a device for determining the specific gravity of liquids and solids. In this case, by weighing the mass, m_{pyc}, of the liquid mixture sample and dividing the known volume, V_{pyc}, of the pycnometer, the true density, ρ, turns out to be

$$\rho = \frac{m_{pyc}}{x\%V_{pyc}} \qquad (35)$$

Or, for an online application, these mass and volume measurements could be obtained by incorporating a load cell (a weight measurement instrument) into a controlled-volume sample chamber such as is demonstrated in **Figure 4**. Such a device would provide a simple method of obtaining the data required to calculate percent entrained air, percent dissolved air, Henry's Law constant, and true density of a solution in real-time. In this application, true density would be determined via formula (35-B)

$$\rho = \frac{m}{V} \qquad \underline{(35\text{-B})}\ \underline{\text{~~[35-B]~~}}$$

where m is the mass of the fluid in the sample chamber and V is the gas-free volume of the liquid.